File 348:EUROPEAN PATENTS 1978-2002/Jul W03
(c) 2002 European Patent Office
File 349:PCT FULLTEXT 1983-2002/UB=20020725,UT=20020718
(c) 2002 WIPO/Univentio

| Set | Items | Description |
|---|---|---|
| S1 | 25074 | LEDS OR LIGHT()(EMIT? OR EMISSION)()DIODE? |
| S2 | 2323 | S1(3N)(PLURAL? OR MANY OR SEVERAL OR NUMEROUS OR MULTI OR MULTIPLE) |
| S3 | 926 | (BACKLIGHT? OR BACK()LIGHT?)(S)DISPLAY?(S)(RGB OR RED()GREEN()BLUE OR COLOUR? OR COLOR?) |
| S4 | 39691 | (RESISTANCE?(3N)VALUE? OR BRIGHTNESS OR INTENSIT?)(S)(PREDETERMIN? OR SPECIFIC OR SPECIFIED OR SET OR PRESELECT? OR PRESET OR PRE()(SELECT? OR SET OR DETERMIN? OR SELECT? OR SPECIFIED)) |
| S5 | 487353 | CURRENT? OR ELECTRICITY? OR VOLT? OR POWER()SOURCE? |
| S6 | 10410 | PWM OR PULSE()WIDTH()MODULAT? |
| S7 | 11653 | DUTY(3N)(CYCLE? OR VALUE?) |
| S8 | 280912 | S5(S)(CONTROL? OR MANAG? OR ADJUST? OR MODIF? OR ALTER? OR INCREASE? OR DECREAS?) |
| S9 | 14181 | (WIRELESS OR WIRE()LESS OR IR OR INFRARED)(3N)(DEVICE? OR UNIT??) |
| S10 | 78940 | (MOBILE OR RADIO OR PORTABLE OR CELLULAR OR REMOTE OR WIRE()LESS)(3N)(UNIT? OR DEVICE? ? OR APPARATUS OR TELEPHONE? ? OR TERMINAL?) |
| S11 | 12900 | (WIRELESS OR CELL? OR MOBILE)()PHONE? OR CELLPHONE? |
| S12 | 40410 | PDA OR PERSONAL()DIGITAL()ASSISTANT? OR (POCKET OR PORTABLE OR PALM()TOP OR PALMTOP OR HAND()HELD OR HANDHELD)()(COMPUTER? OR DEVICE?) OR PALM OR NEWTON |
| S13 | 467 | IC=(G09G-003/34 OR G09G-003/32) |
| S14 | 3 | S2(S)S3(S)S8 |
| S15 | 40 | S5(S)S6(S)S7(S)S1 |
| S16 | 1 | S15(S)S9:S12 |
| S17 | 0 | S15(S)S3 |
| S18 | 8 | S15(S)(BACKLIGHT? OR BACK()LIGHT? OR RGB OR RED()GREEN()BLUE OR COLOUR? OR COLOR?) |
| S19 | 8 | S18 NOT (S14 OR S16) |
| S20 | 6 | S19 NOT AD=19990120:20020725 |
| S21 | 0 | S13(S)S1 |
| S22 | 140 | S13 AND S1 |
| S23 | 68 | S22(S)S5 |
| S24 | 11 | S23(S)S4 |
| S25 | 6 | S24 NOT (S18 OR S14 OR S16) |
| S26 | 2 | S25 NOT AD=19990120:20020725 |

14/3,K/1 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT


00911258 **Image available**
**INFORMATION SYSTEMS**
**SYSTEMES D'INFORMATION**
Patent Applicant/Assignee:
COLOR KINETICS INCORPORATED, 10 Milk Street, Suite 1100, Boston, MA 02108, US, US (Residence), US (Nationality), (For all designated states except: US)
Patent Applicant/Inventor:
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BLANC Christian P, 4 Spring Lane, Cambridge, MA 02141, US, US (Residence), US (Nationality), (Designated only for: US)
Legal Representative:
TEJA Joseph Jr (agent), Wolf, Greenfield & Sacks, P.C., 600 Atlantic Avenue, Boston, MA 02210, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200245467 A2 20020606 (WO 0245467)
Application: WO 2001US43288 20011120 (PCT/WO US0143288)
Priority Application: US 2000252004 20001120; US 2001262022 20010116; US 2001262153 20010117; US 2001268259 20010213; US 2001296219 20010606
Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 30930
Fulltext Availability:
Claims

Claim
... wherein the at least
two LEDs emit at least two different colors; and
providing a **controller** for **controlling** the at least two LEDs, wherein the **controller** is associated with a program signal input.
102. A method of claim 101 further comprising:
providing memory for storing lighting **control** signals wherein the memory is associated with the **controller** . 103. A method of claim 1 0 1 wherein the program signal input is at...

...backlighting of the LCD panel. 107. A method of claim 1 0 1 wherein the **controller** independently controls at least two of the at least two LEDs.
108. A method of claim 107 wherein the **controller** controls the LEDs with pulse width modulation.
109. A method of providing a telephone comprising...

...wherein the at least

two LEDs emit at least two different colors; and
providing a **controller** for **controlling** the LEDs wherein the **controller** is associated with a program signal input.
110. Amethodofclaim109whereinthetelephoneftirthercomprisesatleastoneofa telephone, phone, cellular phone, digital phone...

...wherein the at least
two LEDs emit at least two different colors; and
providing a **controller** for **controlling** the at least two LEDs wherein the **controller** is associated with a sensor. 112. A system for identifying the origin of a phone...

...wherein the program signal includes information regarding the origin of a phone call; and
a **controller** for changing the color of the back lighting system to correspond to the information. 113...

...LEDs wherein the at least two LEDs are at least two different colors;
providing a **controller** wherein the **controller** independently controls the at least
two LEDs and is associated with a program signal input...

...comprising:
a panel having a liquid crystal;
an illumination system for the panel comprising a **plurality** of **LEDs** of different
**colors** ; and
- 77 a **controller** for **controlling** the LEDs to illuminate the panel in response to an input signal that is representative...

...gaming device, a portable device, a pager, a calculator, a computer, an information device, a **display** screen, an MP3 player, a music player, a minidisk player, a CD player, a DVD player, and a satellite phone.
116. Asystemofclaim114,whereintheinputsignalrelatestoanincomingphonecall lo and wherein the illumination system is **controlled** to indicate information about the call.
117. Asystemofclaim114,whereintheilluininationsystemaltersthedisplayasan indicator of an incoming call.
118...

...device, wherein the input signal is related to stock market infonnation, and wherein the background **color** of a **display** of the wireless device changes in conjunction with changes in selected stock information. 123. A ...
...about an account. 127. A system of claim 1 14, wherein the panel comprises a **display** panel for a game and wherein the input signal is associated with input from the...

...the game. 130. An automotive instrument panel with informational lighting comprising:
at least two different **colored** LEDs;
a processor wherein the processor controls the at least two different **colored** LEDs and the processor is associated with a receiver for receiving signals; an instrument **display** wherein the at least two LEDs are directed to cause
illumination of the instrument **display** ;
a sensor for sensing and transmitting signals. - 79 131. A system of claim 130 wherein the LEDs are directed to illuminate the instrument **display** by at least one of edge lighting, **back lighting** , and surface lighting. 132. A system of claim 130 wherein the instrument **display** is at least one of an instrument panel, panel tachometer, speedometer, clock, pressure gauge, temperature...

...the memory is associated with the processor;
wherein the memory is capable of storing lighting **control** signals and the processor is capable of retrieving the **control** signals for **controlling** the LEDs.

...system;
wherein the information system provides information about the item and the illumination system is **controlled** to provide illumination that indicates the information. 230. A system of claim 229, wherein the...

...acceleration, exposure to forces, exposure to vibration, exposure to light, exposure to shock, exposure to **electricity** , exposure to sound, exposure to humidity, and exposure to magnetism. 234. A system of claim ...
...amount of time in excess of a selected amount of time.
238. Asystemofclaim229,whereintlieilluminationsystemgraduallychangestoa selected **color** with the passage of time.
239. Asystemofclaim238,wliereintheilluminationsystemchangestoredwith passage of time. 240. A system of...

...facility. 246. A system of claim 229, wherein the information system stores first information for **controlling** illumination prior to an item being **displayed** for retail purposes and second information for **controlling** illumination when the item is being **displayed** for retail purposes. - 91 247. A system of claim 246, wherein the first information controls...

...of providing an indicator for a package, comprising:
providing at least one LED:
providing a **controller** for generating and communicating **control** signals to the at least one LED wherein the **controller** is associated with a program input for receiving
signals indicative of environmental conditions; and
providing...

...A method of providing a package indicator comprising:
providing two or more LEDs:
providing a **controller** for generating and communicating **control** signals to the two or more LEDs wherein the **controller** is associated with a program input for
receiving signals indicative of environinental conditions; and
providing...

...system; wherein the information system provides information about the item and the illumination system is **controlled** to provide illumination that indicates the information.
251. Amethodofclaim250,whereintheitemisapackageandtheillumination system indicates information about the...

**14/3,K/2 (Item 2 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT


00561728 **Image available**
**ELECTRONIC COUPLING STUD FOR A VIBRATION MEASURING SYSTEM**
**GOUJON DE COUPLAGE ELECTRONIQUE POUR SYSTEME DE MESURE DES VIBRATIONS**
Patent Applicant/Assignee:
SKF CONDITION MONITORING INC,
Inventor(s):
MCCARTY William A,
THOMPSON Stephan L,
BARCLAY John T,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200025101 A1 20000504 (WO 0025101)
Application: WO 99US24618 19991022 (PCT/WO US9924618)
Priority Application: US 98178068 19981023
Designated States: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 11039

Fulltext Availability:

Detailed Description

Detailed Description
... handheld vibration monitor 20 is shown in side view and top view respectively, illustrating the **display** 26 and keypad 28 on the housing 21 in Figure 2a. In addition to the **display** , which advantageously comprises an LCD **display** , **several** different **color** alarm **LEDs** 27 may also be provided. The keypad 28 may include three separate function keys. One key 30, preferably comprisles an "ONIOFF" key for unit activation. A second " **BACKLIGHT** " key 32 turns a **display backlight** on and off. A " **DISPLAY** " key 34 allows the user to scroll through several **alternate displays** , such as a **display** of the value **currently** being measured, a **display** of **current** alarm setpoints, or a **display** of **current** danger setpoints.

In some embodiments of the present invention, two "TAKE DATA" buttons 36, 38...

**14/3,K/3 (Item 3 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT


00474134 **Image available**
**VIBRATION MONITORING SYSTEM**
**SYSTEME DE MESURE DES VIBRATIONS**
Patent Applicant/Assignee:
SKF CONDITION MONITORING,
Inventor(s):
MCCARTY William A,
DRURY Jerry,
CALDERWOOD Bryan,
THOMPSON Steve,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9905486 A2 19990204
Application: WO 98US15044 19980722 (PCT/WO US9815044)
Priority Application: US 97898485 19970722; US 97898678 19970722
Designated States: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 10653

Fulltext Availability:
Detailed Description
Detailed Description
... handheld vibration monitor 20 is shown in side view and top view respectively, illustrating the **display** 26 and keypad 28 on the housing 21 in Figure 2a. In addition to the **display** , which advantageously comprises an LCD **display** , **several** different **color** alarm **LEDs** 27 may also be provided. The keypad 28 may include three separate function keys. One key 30, preferably comprises an "ONIOFF" key for unit activation. A second " **BACKLIGHT** " key 32 turns a **display backlight** on and off. A " **DISPLAY** " key 34 allows the user to scroll through several **alternate displays** , such as a **display** of the value **currently** being measured, a **display** of **current** alarm setpoints, or a **display** of **current** danger setpoints.

In some embodiments of the present invention, two "TAKE DATA" buttons 36, 38...
?

16/3,K/1 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT


00245383
**PORTABLE SPIROMETER WITH IMPROVED ACCURACY**
**SPIROMETRE PORTABLE A PRECISION AMELIOREE**
Patent Applicant/Assignee:
GOVERNMENT OF THE UNITED STATES as represented by THE SECRETARY
DEPARTMENT OF HEALTH AND HUMAN SERVICES,
HANKINSON John L,
VIOLA Joseph O,
EBELING Thomas R,
Inventor(s):
HANKINSON John L,
VIOLA Joseph O,
EBELING Thomas R,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9319669 A2 19931014
Application: WO 93US3030 19930331 (PCT/WO US9303030)
Priority Application: US 92625 19920331
Designated States: AU CA JP US AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE
Publication Language: English
Fulltext Word Count: 13404
Fulltext Availability:
Claims

Claim
... corrective signal.
In such an embodiment, data collector 32, is reconfigured as a stand alone, **portable** spirometer, including **apparatus** f or using a modified dithering of the input signal and thus improving the resolution...

...flow
chart shown in Fig 17. Figure 1G illustrates a hardware connection wherein a correction **voltage** , generated as a **pulse - width - modulated** signal (PWX) by the module of Figure 14 (or elsewhere) on the TDS2020 boardr is converted to a DC **voltage** by a low pass filter (LPF) 52 and is symbolically added by adder 54 to the pressure signal from the transducer, as amplified by amplifier 56. The **PWM** signal may be generated by a circuit such as timer 48 of Fig, 14, and...

...connection is shown at Figure
21.
It will be appreciated that, by varying the PWX **duty cycle** , the resultant DC (or average) **voltage** level thereof is changed, thereby shifting the flow signal up or down, as necessary. The...

20/3,K/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS


01414786
**Multicolored led lighting method and apparatus**
**Verfahren und Einrichtung zur mehrfarbigen Beleuchtung durch Leds**
**Procede et dispositif pour eclairage multicolore a diodes electroluminescentes**
PATENT ASSIGNEE:
Color Kinetics Incorporated, (2719180), 50 Milk Street, Boston, MA 02109, (US), (Applicant designated States: all)
INVENTOR:
Mueller, George G., 234 Hanover Street No. 3, Boston, MA 02113, (US)
Lys, Ihor A., 476 Beacon Street, Apt. 6, Boston, MA 02115, (US)
LEGAL REPRESENTATIVE:
HOFFMANN - EITLE (101511), Patent- und Rechtsanwalte Arabellastrasse 4, 81925 Munchen, (DE)
PATENT (CC, No, Kind, Date): EP 1195740 A2 020410 (Basic)
APPLICATION (CC, No, Date): EP 2001130297 980826;
PRIORITY (CC, No, Date): US 920156 970826
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
RELATED PARENT NUMBER(S) - PN (AN):
EP 1016062 (EP 98944539)
INTERNATIONAL PATENT CLASS: G09G-003/32; H05B-037/02
ABSTRACT WORD COUNT: 121
NOTE:
Figure number on first page: 1 2

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | 200215 | 1955 |
| SPEC A | (English) | 200215 | 5037 |
| Total word count - document A | | | 6992 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 6992 |


...SPECIFICATION addresses some, but not all of the switching problems associated with Phares. Havel uses a **pulse width modulated** signal to provide **current** to respective **LEDs** at a particular **duty cycle** . However, no provision is made for precise and rapid control over the **colors** emitted. As a stand alone unit, the apparatus in Havel suggests away from network lighting, and therefore lacks any teaching as to how to implement a **pulse width modulated** computer lighting network. Further, Havel does not appreciate the use of **LEDs** beyond mere displays, such as for illumination.

U.S. Patent No. 5,184,114, issued...LED will go through nearly two cycles without experiencing the zero current state of its **duty cycle** . For instance, assume the red register is set at 4 and the counter is set ...

...it is frozen. Here, the counter is frozen just before the "off'part" of the **PWM** cycle is to occur for the red **LEDS** . Now assume that the network data changes the value in the red register from 4...

...intensity value in the red register, the output state is still "on", meaning that maximum **current** is still flowing through the red **LEDS** . Meanwhile, the blue and green **LEDs** will probably turn off at their appropriate times in the **PWM** cycle. This would be perceived by the human eye as a red flicker in the course of dimming the **color** intensities. Freezing the counter and updating the output for the rest of the **PWM** cycle overcomes these disadvantages, ensuring the flicker does not occur.

The network interface for microcontroller...modules each connected to a respective light module. As long as at least two primary **color** LEDs are

used, any illumination or display **color** may be generated simply by preselecting the light intensity that each **color** LED emits. Further, each **color** LED can emit light at any of 255 different intensities, depending on the duty cycle of **PWM** square wave, with a frill intensity pulse generated by passing maximum **current** through the LED. Further still, the maximum intensity can be conveniently programmed simply by adjusting the ceiling for the maximum allowable **current** using programming resistances for the **current** regulators residing on the light module. Light modules of different maximum **current** ratings may thereby be conveniently interchanged.

The foregoing embodiment may reside in any number of...

...programmed microcontroller through respective A/D conversion means 15. Each potentiometer would control the current **duty cycle** , and thus the illumination intensity, of an individual **color** LED on LED board 25. With three settings each capable of generating a different byte from 0 to 255, a computer-controlled flashlight may generate twenty-four bit **color** . Of course, three individual potentiometers can be incorporated into a single device, such as a...

...may also be used to program the two or three registers necessary to set the **color** . A non-hand held embodiment of the present invention may be used as an underwater swimming pool light. Since the present invention can operate at relatively low **voltages** and low **current** , it is uniquely suited for safe underwater operation.

Similarly, the present invention may be used...

**20/3,K/2 (Item 2 from file: 348)**

DIALOG(R)File 348:EUROPEAN PATENTS



01335198

**True color flat panel display using an LED dot matrix and LED dot matrix drive method and apparatus**

**Flache Anzeigeeinheit fur Echtfarben mit LED Punktmatrix und Ansteuermethode und Ansteuerschaltung fur LED Punktmatrix**

**Ecran plat de visualisation de couleurs vraies avec matrice de points DEL et circuit et procede de commande pour matrice de points DEL**

PATENT ASSIGNEE:
Cree, Inc., (1192465), 4600 Silicon Drive, Durham, North Carolina 27703-8475, (US), (Applicant designated States: all)
INVENTOR:
Van de Ven, Anthony P., No. 9 Green Peak Villa, Poloche Sai Kung, N.T. Hong Kong, (CN)
Swoboda, Charles M., 709 Walcott Way, Morrisville, N.C. 27560, (US)
LEGAL REPRESENTATIVE:
Warren, Anthony Robert et al (37331), BARON & WARREN, 18 South End, Kensington, London W8 5BU, (GB)

PATENT (CC, No, Kind, Date): EP 1139325 A1 011004 (Basic)
APPLICATION (CC, No, Date): EP 2001202440 961220;
PRIORITY (CC, No, Date): US 580771 951229; US 658440 960610
DESIGNATED STATES: AT; BE; CH; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
RELATED PARENT NUMBER(S) - PN (AN):
EP 989539 (EP 99203882)
EP 870294 (EP 96944869)
INTERNATIONAL PATENT CLASS: G09G-003/32; G09F-009/33; H01L-025/075
ABSTRACT WORD COUNT: 70
NOTE:
Figure number on first page: 12

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | 200140 | 1183 |
| SPEC A | (English) | 200140 | 10048 |
| Total word count - document A | | | 11231 |

Total word count - document B 0
Total word count - documents A + B 11231

...SPECIFICATION matrix LED flat panel display module which is capable of displaying approximately 16.7 million **colors** by combining red (660 nm), green (525 nm), and blue (430 nm) **LEDs** by mixing and **pulse width modulation** . By combining modules either horizontally, vertically, or both, virtually any size display board can be constructed. The module contains combination shift register, latch and constant **current** driver integrated circuits and row drive field effect transistors (FETs). The module may use a...

...four row multiplexed drive method or dual 8 row multiplexed drive method with 1/8 **duty cycle** for maximum brightness and minimum clock speeds. Data is displayed on the module using multiplexing...

**20/3,K/3 (Item 3 from file: 348)**
DIALOG(R)File 348:EUROPEAN PATENTS


01132169
**Pixel with LEDs having top contacts in one plane, and displays incorporating the same**
**Pixel mit den Kopfkontakten der LEDs in einer Ebene und Displays**
**Pixel avec les contacts hauts des DELs dans un plan et afficheurs**
PATENT ASSIGNEE:
CREE, INC., (1192464), 4600 Silicon Drive, Durham, NC 27703, (US), (Proprietor designated states: all)
INVENTOR:
Van de Ven, Anthony P., No. 9 Green Peak Villa, Poloche, Sai Kung, N.T., Hong Kong, (HK)
Swoboda, Charles M., 709 Walcott Way, Morrisville, N.C. 27560, (US)
LEGAL REPRESENTATIVE:
Warren, Anthony Robert et al (37331), BARON & WARREN, 18 South End, Kensington, London W8 5BU, (GB)
PATENT (CC, No, Kind, Date): EP 989539 A1 000329 (Basic)
EP 989539 B1 020612
APPLICATION (CC, No, Date): EP 99203882 961220;
PRIORITY (CC, No, Date): US 580771 951229; US 658440 960610
DESIGNATED STATES: AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LI; LU; MC; NL; PT; SE
EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI
RELATED PARENT NUMBER(S) - PN (AN):
EP 870294 (EP 96944869)
RELATED DIVISIONAL NUMBER(S) - PN (AN):
EP 1139325 (EP 2001202440)
INTERNATIONAL PATENT CLASS: G09G-003/32; G09F-009/33; H01L-025/075
ABSTRACT WORD COUNT: 139
NOTE:
Figure number on first page: 5

LANGUAGE (Publication,Procedural,Application): English; English; English
FULLTEXT AVAILABILITY:

| Available Text | Language | Update | Word Count |
|---|---|---|---|
| CLAIMS A | (English) | 200013 | 1629 |
| CLAIMS B | (English) | 200224 | 1365 |
| CLAIMS B | (German) | 200224 | 1360 |
| CLAIMS B | (French) | 200224 | 1513 |
| SPEC A | (English) | 200013 | 10049 |
| SPEC B | (English) | 200224 | 8365 |

Total word count - document A 11680
Total word count - document B 12603
Total word count - documents A + B 24283
...SPECIFICATION combining red (660 nm), green (525 nm), and blue (430 nm) LEDs by mixing and **pulse width modulation** . By combining modules either horizontally, vertically, or both, virtually any size display board can be constructed. The module contains combination shift register,

latch and constant **current** driver integrated circuits and row drive field effect transistors (FETs). The module may use a...

...four row multiplexed drive method or dual 8 row multiplexed drive method with 1/8 **duty cycle** for maximum brightness and minimum clock speeds. Data is displayed on the module using multiplexing...

...SPECIFICATION matrix LED flat panel display module which is capable of displaying approximately 16.7 million **colors** by combining red (660 nm), green (525 nm), and blue (430 nm) **LEDs** by mixing and **pulse width modulation** . By combining modules either horizontally, vertically, or both, virtually any size display board can be constructed. The module contains combination shift register, latch and constant **current** driver integrated circuits and row drive field effect transistors (FETs). The module may use a...

...four row multiplexed drive method or dual 8 row multiplexed drive method with 1/8 **duty cycle** for maximum brightness and minimum clock speeds. Data is displayed on the module using multiplexing...

**20/3,K/4 (Item 1 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT


00500208
**DIGITALLY CONTROLLED ILLUMINATION METHODS AND SYSTEMS**
**SYSTEMES ET PROCEDES D'ECLAIRAGE A COMMANDE NUMERIQUE**
Patent Applicant/Assignee:
COLOR KINETICS INCORPORATED,
Inventor(s):
MUELLER George G,
LYS Ihor A,
MORGAN Frederick Marshall,
BLACKWELL Michael K,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9931560 A2 19990624
Application: WO 98US26853 19981217 (PCT/WO US9826853)
Priority Application: US 9771281 19971217; US 9768792 19971224; US 9878861 19980320; US 9879285 19980325; US 9890920 19980626; WO 98US17702 19980826
Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 58204

Fulltext Availability:
Detailed Description

Detailed Description
... LED will go through nearly two cycles without experiencing the zero current state of its **duty cycle** . For instance, assume the red register is set at 4 and the counter is set...

...it is frozen. Here, the counter is frozen just before the "off part" of the **PWM** cycle is to occur for the red **LEDS** . Now assume that the network data changes the value in the red register from four...

...intensity value in the red register, the output state is still "on", meaning that maximum **current** is still flowing through the red **LEDS** . Meanwhile, the blue and green **LEDs** will probably turn off at their appropriate times in the **PWM** cycle. This would be perceived by the human eye as a red flicker in the course of dimming the **color** intensities. Freezing the counter and updating the output for the rest of

the **PWM** cycle overcomes these disadvantages, ensuring the flicker does not occur.

The microprocessors that provide the...modules each connected to a respective light module. As loncy as at least two primary **color** LEDs are used, any illumination or display **color** may be generated simply by preselecting the light intensity that each **color** LED emits. Further, each **color** LED can emit light at any of 255 different intensities, depending on the duty cycle of **PWM** square wave, with a full intensity generated by passing maximum **current** through the LED. Further still, the maximum intensity can be conveniently programmed simply by adjusting the ceiling for the maximum allowable **current** using programming resistances for the **current** regulators residing on the light module. Light 1 5 modules of different maximum **current** ratings may thereby be conveniently interchanged.

In an alternative embodiment of the invention, a special...of color-emitting semiconductor dies Grouped together in one structural unit.

Alternatively, the array of **color** -emitting semiconductor dies can comprise a plurality of structural units, each comprising at least one **color** -emitting semiconductor die. An LED system can further comprise a plurality of structural units, each unit comprising a plurality of **color** -emitting semiconductor dies. It is understood that as long as at least two primary **color** LEDs are used, any illumination or display **color** may be generated simply by preselecting the light intensity that each **color** LED emits. Further, as described in part in the foregoing specification, each **color** LED can emit light at any of a large number of different intensities, depending on the duty cycle of **PWM** square wave, with a full intensity pulse generated by I 0 passing maximum **current** through the LED. The term brightness, as used herein, is understood to refer to the can be conveniently programmed simply by adjusting the ceiling for the maximum allowable **current** using programming resistances for the processors residing on the light module.

1 5 In one...

**20/3,K/5 (Item 2 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT


00479515 **Image available**
**MULTICOLORED LED LIGHTING METHOD AND APPARATUS**
**PROCEDE ET DISPOSITIF POUR ECLAIRAGE MULTICOLORE A DIODES ELECTROLUMINESCENTES**
Patent Applicant/Assignee:
COLOR KINETICS INCORPORATED,
Inventor(s):
MUELLER George G,
LYS Ihor A,
Patent and Priority Information (Country, Number, Date):
Patent: WO 9910867 A1 19990304
Application: WO 98US17702 19980826 (PCT/WO US9817702)
Priority Application: US 97920156 19970826
Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE GH GM HR HU ID IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM KE LS MW SD SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
Publication Language: English
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Fulltext Availability:
Detailed Description
Claims

Detailed Description

... addresses some, but not all of the switching problems associated with Phares. Havel uses a **pulse width modulated** signal to provide **current** to respective **LEDs** at a particular **duty cycle** . However, no provision is made for precise and rapid control over the **colors** emitted. As a stand alone unit, the apparatus in Havel suggests away from network lighting, and therefore lacks any teaching as to how to implement a **pulse width modulated** computer lighting network.

Further, Havel does not appreciate the use of LEDs beyond mere ...LED will go through nearly two cycles without experiencing the zero current state of its **duty cycle** . For instance, assume the red register is set at 4 and the counter is set...

...it is frozen. Here, the counter is frozen just before the "off part" of the **PWM** cycle is to occur for the red **LEDS** . Now assume that the network data changes the value in the red register from 4...

...intensity value in the red register, the output state is still "on", meaning that maximum **current** is still flowing through the red I 0 **LEDS** . Meanwhile, the blue and green **LEDs** will probably turn off at their appropriate times in the **PWM** cycle. This would be perceived by the human eye as a red flicker in the course of dimming the **color** intensities. Freezing the counter and updating the output for the rest of the **PWM** cycle overcomes these disadvantages, ensuring the flicker does not occur.

5 The network interface for...modules each connected to a respective light module. As long as at least two primary **color** LEDs are used, any illumination or display **color** may be generated simply by preselecting the light intensity that each **color** LED emits. Further, each **color** LED can emit light at any of 255 different intensities, depending on the duty cycle of **PWM** square wave, with a frill intensity pulse generated by passing I 0 maximum **current** through the LED. Further still, the maximum intensity can be conveniently programmed simply by adjusting the ceiling for the maximum allowable **current** using programming resistances for the **current** regulators residing on the light module. Light modules of different maximum **current** ratings may thereby be conveniently interchanged.

The foregoing embodiment may reside in any number of...n@iicrocontroller through respective A/D conversion means 15. Each potentiometer would control the current **duty cycle** , and thus the illumination intensity, of an individual **color** LED on LED board 25. With three settings each capable of generating a different byte from 0 to 255, a computer-controlled flashlight may generate twenty-four bit **color** . Of course, three individual potentiometers can be incorporated into a single device, such as a...

...may also be used to program the two or three registers necessary to set the **color** . A non-hand held embodiment of the present invention may be used as an underwater swimming pool light. Since the present invention can operate at relatively low **voltages** and low **current** , it is uniquely suited for safe underwater operation.

Similarly, the present invention may be used...

Claim

... unit further correspond to the third color LED, the control means further generates a third **pulse width modulated** signal having a **duty cycle** corresponding to the third **color** LED intensity value, whereby the third **pulse width modulated** signals is alternately in a high or a low state, and the **current** switching means further applies **current** to the third **color** LED when the third **pulse width modulated** signal is in one of either the high or the low state.

19 The network...

20/3,K/6 (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT


00407389
**ILLUMINATOR ASSEMBLY INCORPORATING LIGHT EMITTING DIODES**
**ENSEMBLE D'ECLAIRAGE COMPORTANT DES DIODES ELECTROLUMINESCENTES**
Patent Applicant/Assignee:
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Patent and Priority Information (Country, Number, Date):
Patent: WO 9748134 A1 19971218
Application: WO 97US9970 19970609 (PCT/WO US9709970)
Priority Application: US 96664055 19960613
Designated States: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GE HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN GH KE LS MW SD SZ UG AM AZ BY KG KZ MD RU TJ TM AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 21802
Fulltext Availability:
Detailed Description

Detailed Description
... presence of illumination from the two additive constituents of the mixture.

In addition to manipulating **color** , the microprocessor U I can **pulse - width modulate** the LED **currents** for purposes of thermal de-rating. A microprocessor U I with internal or external temperature measurement means (THI) can modulate the LED **currents** to very precisely follow the manufacturers' specified **current** ratings at each temperature as illustrated by the curve (2203) in Figure 22 labeled "Design **Current** for Software-Controlled Temperature Compensation". In the case of microprocessor controlled thermal de-rating, the **current** limiting means must provide a **current** greater than or equal to the maximum of the design **current** for software control. For the amber **LEDs** DI -133 in the example in figure 22 the **current** limiting means must provide at least 48mA. This would require changing the value of RI...

...Figure 21 to 14 Ohm. At 70' Celsius the microprocessor Ul would begin 1 5 **pulse - width - modulating** the **current** through DI -D3 in Figure 21 to reduce the average **current** to safe levels using a lookup table, calculation or other means to determine the correct **duty cycle** . Alternatively RI in figure 21 could be set to IO Ohm for a 68mA drive **current** and the **duty cycle** set at 70% to maintain an average **current** less than the manufacturers limit. Obviously, there are an infinite number of **current** and **duty cycle** combinations that can be used to maintain the required average **current** as long as the peak drive **current** does not exceed the LED manufacturer's peak **current** ratings.

The invention has been described in detail for a rearview mirror incorporating an illuminator...
?

26/3,K/1 (Item 1 from file: 348)
DIALOG(R)File 348:EUROPEAN PATENTS


01102968
**Optical display device using LEDs and its operating method**
**Optische Anzeigevorrichtung mit Leuchtdioden und Steuerverfahren dafur**
**Dispositif d'affichage optique utilisant des diodes electroluminescentes et sa methode de commande**

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PATENT (CC, No, Kind, Date): EP 967590 A1 991229 (Basic)
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NOTE:
Figure number on first page: NONE

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| Total word count - document A | | | 3484 |
| Total word count - document B | | | 0 |
| Total word count - documents A + B | | | 3484 |


...SPECIFICATION voltage class. To set the current, the LEDs are provided with series resistors, where the **resistance values** are selected as a function of the forward **voltage** class of the respective **LEDs** .
It would essentially be advantageous to also use LEDs for implementation of the incandescent bulbs...

...same brightness is lower by a factor of 4 to 5.
Nevertheless, in implementation of **LEDs** , especially for brake lights and taillights, with the possible implementations available in the past there...
...additional heat problems with the LED brake lights known in the past, the number of **LEDs** per light is preferably selected as an integral multiple of 3 or 4. The arrangement...

...and/or semiconductor components on the LED circuitboard represents an additional thermal stress for the **LEDs** . Another problem for mass production of such lights is the different forward **voltage** classes of the **LEDs** because a mixed assembly is impossible especially with the above-mentioned matrix circuit with a series connection of a maximum of 3 to 4 parallel connections of n **LEDs** in the same forward **voltage** class. Consequently, several different forward **voltage** classes must be processed for each light project, which leads to an undesirable variety of variants. With the series resistors used in the past, the working point of the **LEDs** can be **set** only for one **voltage** value of the on-board **voltage** in the vehicle, so that the wide distribution of the forward **voltages** of an LED within one class always leads to a blurred setting of the working...

...a resistance circuit. Superpositioning of several tolerances (reflector quality, geometric tolerances, band width of the **brightness** classes,

resistance tolerances, band width of the forward **voltage** classes, transmittance of the light disk and the optically effective elements) can lead on the...on the angle of observation).

The first control circuit means have a corresponding number of **current** sources, depending on the number of **LEDs** and the arrangement either all in rows or with several columns connected in parallel with **LEDs** connected in series. By means of the controllable **current** sources, the desired **brightness** can be **set** by setting the **current** . The second control circuit means, controlled by the first control circuit means, automatically **set** the proper **voltage** needed, depending on the circuit arrangement and the **current** **set** . Thus, the **voltage** must be adjusted upward by the second control circuit means in comparison with the **voltage** supplied by the wiring system when using only one column with a plurality of **LEDs** in series, whereas the **voltage** is reduced with an arrangement of several parallel columns with a few **LEDs** . In addition, the combination of upwards and downwards conversion is possible.

To achieve a minimal...Figure 4 shows the design of the load and shows several parallel connected columns of **LEDs** 9 connected in series, where each series connection is assigned to a **current** source which is connected to a logic circuit 8. Logic circuit 8 is connected to control circuit 5 over line 7. A constant **current** in each branch is guaranteed by means of **current** sources 15 because of the parallel connection of the individual LED branches 9, so the constant **currents** are applied by means of **current** sources 15 which are connected to control circuit 11. In the embodiment according to Figures 3 and 4, control circuit 5 is **set** at a lower **voltage** , e.g., 8.5 **volt** , than the on-board vehicle network due to the parallel connection of individual LED columns. In both embodiments, the ( **current** required) for the desired **brightness** is **set** and programmed after manufacture of the arrangement, taking into account the manufacturing tolerances. The respective **voltage** is then established as a function of the applied **current** , where control circuit 5 is always **set** at the lowest required **voltage** for optimum operation of the **LEDs** .

Terminal 16 on logic circuit means 8 is used for external setting and programming of...

**26/3,K/2 (Item 2 from file: 348)**



00818723

**Active driven led matrices**
**Aktive Steuerung fur Anzeigetafeln mit Leuchtdioden**
**Commande active pour matrices de diodes electroluminescentes**

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...SPECIFICATION represents the amount of voltage required to produce the intensity, I, produced by a specific **light emitting diode** (e.g. diode 10). All of the anodes of the **light emitting diodes** are connected together and to the output terminal of **voltage** source 30. In the operation, a first step of **voltage** (e.g. I=1) is applied to the output terminal (all of the anodes of...

...to ground) that requires a first level or shade of gray. A second step of **voltage** (e.g. I=2) is applied to the output terminal (all of the anodes of...
?